

Inventor: HALL ET AL
Serial No.: 09/889,370
Filing Date: 07/17/2001
Examiner: KERNS, Kevin P.
Group Art Unit: 1725

REMARKS

The Office action of August 9, 2005 has been carefully considered and the application has been amended accordingly.

New claims 33-47 correspond somewhat to previously presented claims 17, 18 and 20-32 but have been written to avoid the Examiner's objections and rejections under Section 112.

It is submitted that new claims 33-47 are in condition for allowance, and should not be subjected to a double patenting rejection over the commonly owned U.S. Patent 6,548,027 to Hall et al. for the following reasons:

The examiner is still objecting that the present application overlaps with the previous patent to Hall et al. However, applicants respectfully point out that the present application requires a reactor which possesses a dielectric barrier in the form of a coating on at least one of the electrodes. Thus, as claimed, the present invention possesses a dielectric barrier layer in addition to dielectric material in the reactor bed. The newly presented claims define structure that is neither taught nor suggested in the earlier Hall et al. Accordingly, it is respectfully submitted that new claims 33-47 are allowable.

Further, applicants wish to make of record that a dielectric barrier and a reactor bed packed with dielectric material are fundamentally different. A dielectric barrier is a continuous layer of an insulating material in contact with or between the

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spaced electrodes. In contrast a packed reactor bed contains many small pieces, e.g. pellets, of dielectric material. This means that a dielectric barrier has the advantage that an arc discharge cannot occur between the electrodes whereas an arc may occur in a packed bed reactor if there is a path through the packing material, for example caused by the material settling or caking. Typically, a larger separation is needed between the electrodes of a packed bed reactor in order to minimize the chance that an arc discharge will occur.

Thus, one skilled in the art would not be led by the earlier Hall et al. patent to change from a packed bed reactor to a dielectric barrier reactor as there is a fundamental difference between them and there is no teaching in the earlier patent to suggest using a dielectric barrier reactor.

In view of the foregoing amendments and remarks, reconsideration of the application is requested and allowance of newly presented claims 33-47 is courteously solicited.

The Commissioner is hereby authorized to charge any required fees associated with this communication and during the pendency of the application under 37 CFR 1.16 and 37 CFR 1.17 or to credit

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submitted in duplicate.

Respectfully submitted,

November 9, 2005



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